CLAIMS

What is claimed is:

1. An information server, comprising:

transaction prioritizer that determines which of a set of memory subsystems in the information server is to cache a set of data associated with an information access transaction;

power manager that performs a power adaptation in the information server in response to a set of ranks assigned to the memory subsystems.

2. The information server of claim 1, wherein the transaction prioritizer determines which of the memory subsystems is to cache the data by determining a priority of the information access transaction and matching the priority to the ranks.

3. The information server of claim 2, wherein the transaction prioritizer selects the memory subsystem having the rank that is a closest match to the priority.

4. The information server of claim 2, wherein the transaction prioritizer determines the priority by examining the information access transaction.

5. The information server of claim 4, wherein the priority is carried in the information access transaction which is obtained via a network.

6. The information server of claim 2, wherein the

priority is determined by the data targeted by the information access transaction.

7. The information server of claim 1, wherein the priority is determined by agreement.

8. The information server of claim 1, wherein the power adaptation is triggered by a relatively high rate of power consumption.

9. The information server of claim 1, wherein the power adaptation is triggered by a relatively high level of heat.

10. The information server of claim 1, wherein the power adaptation is triggered by a relatively slow response time.

11. The information server of claim 1, wherein the power adaptation is triggered by a change in memory bandwidth contention.

12. The information server of claim 1, wherein the power manager performs the power adaptation by switching off the memory subsystem having a lowest rank of the active ones of the memory subsystems.

13. The information server of claim 1, wherein the power manager performs the power adaptation by switching on the memory subsystem having a highest rank of the inactive ones of the memory subsystems.

14. A method for power-aware adaptation in an

information server, comprising the steps of:

determining which of a set of memory subsystems in the information server is to cache a set of data associated with an information access transaction;

performing a power adaptation in the information server in response to a set of ranks assigned to the memory subsystems.

15. The method of claim 14, wherein the step of determining includes the steps of determining a priority of the information access transaction and matching the priority to the ranks.

16. The method of claim 15, wherein the step of matching includes the step of selecting the memory subsystem having the rank that is a closest match to the priority.

17. The method of claim 15, wherein the step of determining the priority includes the step of examining the information access transaction.

18. The method of claim 15, wherein the step of determining the priority includes the step of extracting the priority from the information access transaction carried via a network.

19. The method of claim 15, wherein the step of determining the priority includes the step of determining the data targeted by the information access transaction.

20. The method of claim 15, wherein the step of

determining the priority includes the step of determining an agreement with a client that generates the information transaction.

21. The method of claim 14, wherein the step of performing the power adaptation includes the step of triggering the power adaptation in response to a relatively high rate of power consumption in the information server.

22. The method of claim 14, wherein the step of performing the power adaptation includes the step of triggering the power adaptation in response to a relatively high level of heat.

23. The method of claim 14, wherein the step of performing the power adaptation includes the step of triggering the power adaptation in response to a relatively slow response time.

24. The method of claim 14, wherein the step of performing the power adaptation includes the step of triggering the power adaptation in response to a change in memory bandwidth contention.

25. The method of claim 14, wherein the step of performing the power adaptation includes the step of switching off the memory subsystem having a lowest rank of the active ones of the memory subsystems.

26. The method of claim 14, wherein the step of performing the power adaptation includes the step of switching on the memory subsystem having a highest

rank of the inactive ones of the memory subsystems.